

Remarks

Claims 27-30, 32-33, 35-47, 49-50, 52-69 and 72 are now currently pending in the application. Claims 1-26, 31, 34, 48, 51, 70 and 71 have been cancelled. Claims 27, 35, 44 and 61 have been amended. New claim 72 has been added.

In the Office Action, the Examiner rejected Claims 27-71 under 35 U.S.C. 102(b) as being clearly anticipated by Lipp (DE 20009149); Claims 27, 28, 30-32, 38-42, 44, 45, 47-49, 55-59, 61-63, 65-71 under 35 U.S.C. 102(b) as being anticipated by Andre (317); Claims 27-31, 34, 38-41, 43-48, 51, 55-58, and 60-71 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Beveridge (492); Claims 33, 36, 37, 50, 53, and 54 under 35 U.S.C. 103(a) as being unpatentable over Andre (317) or Beveridge (492); and Claims 32, 35, 42, 49, 52, and 59 under 35 U.S.C. 103(a) as being unpatentable over Beveridge (492) in view of Andre (317).

Applicants have amended independent claims 27 and 44 to recite, in pertinent part, that a major surface of a metal sheet forming an article incorporates a coating applied across the major surface to one of provide a moisture barrier to the metal sheet and enhance the chemical resistance of the metal sheet (emphasis added). Claims 27 and 44 further recite that the article incorporates a lockseam that interconnects adjacent edge margins of the sheet with the lockseam including a region where the edge margins overlap where both edge margins have the coating applied to them and where the coating of the edge margins are in engagement to form a gasket between the edge margins. None of the art of record shows or suggests, alone or in combination, such an article.

With regard to DE 20009149 (Lipp), Lipp relates to a spiral wound vessel that incorporates a seam interconnecting longitudinal edges of a sheet. To ensure the joint is sealed, the edges are welded (32, 58) to each other at the seam (see Fig 2C and 48) and/or a sealing substance (56) is inserted along the edges (24, 26) (see Fig. 4A).

In contrast the amended independent claims recite a coating on a major surface of the sheet where the coating forms a gasket at overlapping edge margins. Claim 27 further recites specifically that the gasket provides a watertight joint at the seam. As indicated at paragraph [0005] in the present application the coating on the major surface allows the gasket to be formed merely on the formation of the lockseam. By contrast, the prior art teaches applying sealant or welding at the edge margins of the sheet forming the seam. In addition to forming the gasket, the coating as recited in the claims also provides a moisture barrier and/or chemical resistance to the major surfaces of the sheet.

With regard to US 4838317 (Andre), the Examiner has asserted that Andre discloses a sheet metal as having "a coating 28 applied to it (see figure 10) in the overlap". With reference to column 9, lines 13 to 43 and Fig 10 of Andre, we submit this interpretation is incorrect.

In Andre the interior plastic liner 28 is not a coating incorporated across a major surface of the metal sheet, as recited in the independent claims. Rather, Andre discloses a distinctly separate component to the sheet metal 11. In column 9, lines 13 to 18, the flat lock seam 54 is described as employed to anchor an interior plastic liner 28 to the interior pipe wall 12. Thus it is clear that the plastic liner 28 is separate from the sheet metal 11 and is not a coating incorporated across a major surface.

Furthermore, in construction of the pipe 10, Andre describes aligning the lateral edges of the liner with the metal sheeting, and joining the edges together in a lockseam (see column 9, lines 32 to 37). Thus, the liner in Andre is clearly not a coating incorporated across a major surface of the metal sheet, as recited in the independent claims of the present application.

The present application describes in paragraph [0005] that the use of the coating, as pre-applied to the sheet, is particularly advantageous in facilitating manufacture of the article, as for example, allowing the watertight joint to be formed merely on the formation of the lockseam. By contrast, Andre requires two separate components (i.e. a liner and sheet metal) during manufacture of the article, which complicates the supply and the construction process. For

example, in Andre, during construction of the article, it is necessary to ensure alignment of the lateral edges of both the plastic liner and metal sheeting during formation of the lockseam

With regard to US 4003492 (Beveridge), Beveridge discloses a body blank 6 with lacquer coating 2, 3 on the surfaces, and an organic resinous joint material 4 (adhesive strips 4a, 4b) provided at the lock seam. The resinous material is then heated so the resin may bond the adjacent surfaces (see column 1, 29 to 35, 44 to 49, column 3, lines 14 to 16, column 4, lines 16 to 24).

In contrast, the present claims recite a coating applied across a major surface of a metal sheet to provide a moisture barrier to the metal sheet and/or enhance the chemical resistance of the metal sheet and that forms a gasket between edge margins of the metal sheet. Beveridge clearly discloses a lacquer coating and organic resinous joint material.

The Examiner has acknowledged that in Beveridge the adhesive strips 4a, 4b were only provided at the lock seams, but then stated it would be obvious that the adhesive strips 4a, 4b could be applied over an entire side. However, a person skilled in the art would not find it obvious to apply organic resinous joint material 4 over an entire side. The organic resinous joint material/adhesive strips are provided to bond adjacent surfaces together, not as a general surface coating, which instead is provided by lacquer 2, 3 (column 3, lines 17 to 23). In fact, Beveridge teaches away from using the organic resinous joint material/adhesive strips across the major surfaces, and teaches sparing use of it along the seam (column 3, lines 39 to 46, column 4, lines 16 to 24). Furthermore the lacquer coating 2, 3 in Beveridge is not functional to provide a gasket or seal at the lockseam. In contrast, the present invention provides a multifunction coating for forming a gasket for a watertight joint at the lockseam as well as to provide a moisture barrier and/or to enhance the chemical resistance of the sheet.

The present combination of reference and the assertion of what they disclose is a classic example of hindsight reconstruction of the prior art using the presently claimed invention to

show the way and fill in the glaring gaps in the prior art. As the Federal Circuit stated, this approach is improper to consideration of obviousness or non-obviousness:

It is impermissible to first ascertain factually what [applicant] *did* and then view the prior art in such a manner as to select from the random facts of the art only those which may be modified and then utilized to reconstruct appellants' invention from the prior art."

Interconnect Planning Corp. v. Thomas E Feil, 774 F2d 1132 (Fed Cir. 1985), quoting *In re Shuman*, 361 F2d. 1008, 1012 (CCPA 1966). As the Federal Circuit explained, "[t]he invention must be viewed not with the blueprint drawn by the inventor, but in the state of the art that existed at the time.... That which may be clear and thus 'obvious' to the court, with the invention fully diagrammed and aided, ...may have been a break through of substantial dimension when first unveiled." *Interconnect Planning Corp.*, 774 F2d at 1138. Accord, e.g., *Sanofi-Synthelab v. Apotex*, 550 F.3d 1075, 1088 (Fed. Cir. 2008); and *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1050-1052 (Cir. Fed, 1988). See also, *KSR v. Teleflex*, 550 U.S. 398, 419-20, 82 U.S.P.Q.2d (BNA) 1385 (2007) (recognizing "hindsight bias" and "ex post reasoning" as inappropriate in determination of obviousness); and *Graham v. John Deere*, 383 U.S. 1, 36, 148 U.S.P.Q; (BNA) 459 (1966) (cautioning against hindsight whereby the teachings of the invention are read into the prior art).

In a rejection under 35 U.S.C. §103(a), it is necessary to identify the reason why a person of ordinary skill in the art would have combined the prior art elements in the manner claimed. "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR*, 550 U.S. at 418 (citing *In re Kahn*, 441 F. 3d 977, 988 (Cir Fed. 2006)). As the U.S. Patent Office Deputy Commissioner emphasized in giving direction the Patent Examining Corps in the United States Patent Office based on *KSR*, "in formulating a rejection under 35 U.S.C. §103(a) based upon a combination of prior art elements, it remains necessary to identify the reason why a person of ordinary skill in the art would have combined the prior art elements in the manner claimed." See Commissioner's Memorandum dated May 3rd, 2007, copy attached. Plainly, the Office Action has not identified, and cannot identify, any reason to combine the reference to produce the combination of the presently claimed invention other than the teachings of the present patent application.

The Independent claims for the present application recite in pertinent part a coating applied across a major surface of a sheet of metal to one of provide a moisture barrier to the metal sheet and enhance the chemical resistance of the metal sheet with a lockseam that interconnects adjacent edge margins of the sheet with the lockseam including a region where the edge margins overlap where both edge margins have the coating applied to them and where the coating of the edge margins are in engagement to form a gasket between the edge margins.

Lipp DE '149 discloses a lockseam being welded or including additional sealant inserted as a strip along the edge to ensure that the lockseam is sealed.

Andre '317 discloses a polymer material fed into the pipe during the fabrication of the lateral ends.

Beveridge '492 discloses using adhesive strips between the metal of the seam to seal the seam.

None of the art of record, alone or in combination, shows or suggests an article including a sheet of metal having a coating on a major surface that provides a moisture barrier and/or enhances chemical resistance and forms a gasket in a lockseam that interconnects adjacent edge margins of the sheet, as recited in the amended independent claims.

Additionally, Applicants note with regard to Claim 29, Claim 29 recites that the coating is compressed by an amount in the range of 10-50% of its original thickness. The Examiner has stated that the prior art describes the metal itself being compressed by 10-50% of its original thickness. Applicants point out that this does not show or suggest that the coating be compressed by 10-50%.

Regarding Claim 30, Claim 30 recites that the coating is in the form of a polymeric film, the coating incorporated across a major surface of the metal sheet. The prior art does not

describe this. Applicants note that what the prior art does describe is merely using silicon (Lipp DE '149) or organic resinous material as an adhesive (Beveridge '429), and polymer material such as polyethylene or PVC (Andre '317), but not a polymeric film as a coating as recited in the present claims.

Independent Claim 61 is a method claim that has been amended to recite providing at least one metal sheet as described above. For this, and the reasons stated above, Applicants believe that this claim and its dependant claims are allowable.

Applicants respectfully submit that the claims are in condition for allowance and respectfully request a notice thereof. Applicant encourages the Examiner to call its counsel, James D. Schweikert, at 330-237-4551 to resolve any additional questions that the Examiner may have to place the claims in condition for allowance.

Respectfully submitted,

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